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AIP report MANPOWER STATISTICS DIVISION

American Institute of Physics, 335 East 45 Street, New York, N.Y. 10017 (212) 661-9404

DATA ON ASTRONOMY ENROLLMENTS AND DEGREES

a SUPPLEMENT

AIP Pub. No. R-151.18B by Susanne D. Ellis February 1981

SUPPLEMENT

This supplement is an institutional listing of the 67 degree-granting astronomy departments in the U.S., 29 of which are combined physics and astronomy departments. The numbers shown in parentheses are estimates based on data reported by the institution in an earlier year.

Notations used in this supplement:

- *** = Institution grants master's degree as its highest astronomy degree.**
- **** = Institution grants doctorate as its highest astronomy degree.**
- **1 = No undergraduate astronomy degree program.**
- **C = Combined physics and astronomy department.**
- **S = Separate astronomy department.**

MEMBER SOCIETIES:
AMERICAN PHYSICAL SOCIETY • OPTICAL SOCIETY OF AMERICA • ACOUSTICAL SOCIETY OF AMERICA • SOCIETY OF RHEOLOGY • AMERICAN ASSOCIATION OF PHYSICS TEACHERS • AMERICAN CRYSTALLOGRAPHIC ASSOCIATION • AMERICAN ASTRONOMICAL SOCIETY • AMERICAN ASSOCIATION OF PHYSICISTS IN MEDICINE • AMERICAN VACUUM SOCIETY

Institution	Type of Dept.	1980-81 ASTRONOMY ENROLLMENTS Introductory Sci.	Nonsci.	Undergrad. majors Jrs.	Srs.	Graduate student Total	1st yr.	1979-80 ASTRONOMY DEGREES BS BA	MS	TMS	PhD
ARIZONA											
**Arizona-U.of	S	67	1 052	13	8	14	4	7	0	2	5
STATE TOTAL		67	1 052	13	8	14	4	7	0	2	5
CALIFORNIA											
**CA Inst. of Tech.	C	21	-	6	1	20	3	3	2	0	3
**CA-U.of-Berkeley	S	36	458	11	16	30	7	4	4	1	3
**CA-U.of-Los Angeles	S	76	2 707	12	2	19	2	3	3	0	1
1**CA-U.of-Santa Cruz	S	25	200	0	0	21	9	-	3	3	5
*San Diego State U.	S	-	749	3	13	17	3	2	0	2	
Southern CA-U.of	S	20	450	3	3			1			
STATE TOTAL		178	4 564	35	35	107	24	13	12	6	12
COLORADO											
1**CO-U.of-Boulder (Astro-Geophysics)	S	-	1 230	-	-	43	8	-	1	1	8
STATE TOTAL		-	1 230	-	-	43	8	-	1	1	8
CONNECTICUT											
*Wesleyan U.	S	30	60	3	2	0	0	1	1	0	
**Yale U.	S	15	250	1	2	14	4	3	0	0	7
STATE TOTAL		45	310	4	4	14	4	4	1	0	7
DELAWARE											
*Delaware-U.of	C	0	200	6	6	1	0	0	0	1	
STATE TOTAL		0	200	6	6	1	0	0	0	1	
DISTRICT OF COLUMBIA											
1**Howard U.	C	5	135	-	-	2	1	-	0	0	0
STATE TOTAL		5	135	-	-	2	1	-	0	0	0
FLORIDA											
*FL Inst. of Tech. (S.S.)	C	54	54	12	9	4	0	7	0	1	
**FL-U.of-Gainesville	S	100	2 000	4	3	28	6	0	0	1	4
STATE TOTAL		154	2 054	16	12	32	6	7	0	2	4
GEORGIA											
*GA-U.of	C	29	199	2	2	0	0	0		1	
Valdosta State College	C	-	37	5	0			0			
STATE TOTAL		29	236	7	2	0	0	0		1	

Institution	Type of Dept.	1980-81 ASTRONOMY ENROLLMENTS Introductory Sci.	Introductory Nonsci.	Undergrad. majors Jrs.	Undergrad. majors Srs.	Graduate student Total	Graduate student 1st yr.	1979-80 ASTRONOMY DEGREES BS BA	MS	TMS	PhD
HAWAII											
1**Hawaii-U.of	C	-	750	-	-	18	4	-	0	0	1
STATE TOTAL		-	750	-	-	18	4	-	0	0	1
ILLINOIS											
1**Chicago-U.of	S	15	125	-	-	12	3	-	0	1	3
**IL-U.of-Urbana	S	265	693	8	3	16	8	5	1	0	1
**Northwestern U.	C	-	220	0	1	5	3	5	0	0	1
STATE TOTAL		280	1 038	8	4	33	14	10	1	1	5
INDIANA											
**IN-U.of-Bloomington	S	51	980	5	3	17	6	1	1	0	1
STATE TOTAL		51	980	5	3	17	6	1	1	0	1
IOWA											
1**Iowa State U.	C	45	504	-	-	6	0	-	0	0	2
**Iowa-U.of	C	196	170	4	7	9	2	0	1	1	0
STATE TOTAL		241	674	4	7	15	2	0	1	1	2
KANSAS											
KS-U.of	C	182	-	5	5	-	-	3			
STATE TOTAL		182	-	5	5	-	-	3			
KENTUCKY											
**KY-U.of	C	-	476	0	1	2	1	0	0	0	0
STATE TOTAL		-	476	0	1	2	1	0	0	0	0
MARYLAND											
**MD-U.of	S	87	1 600	8	10	37	9	7	4	1	4
STATE TOTAL		87	1 600	8	10	37	9	7	4	1	4
MASSACHUSETTS											
**Boston U.	S	142	542	5	4	10	5	3	2	1	1
**Harvard U.	S	12	582	3	2	23	3	4	8	-	7
**MA-U.of-(5-Coll.Astronomy)	S	150	1 100	16	16	25	5	13	0	0	3
Wellesley College	S	4	150	3	6	-	-	3			
Williams College	C	16	51	2	2	-	-	2			
STATE TOTAL		324	2 425	29	30	58	13	25	10	1	11

Institution	Type of Dept.	1980-81 ASTRONOMY ENROLLMENTS Introductory Sci.	Introductory Nonsci.	Undergrad. majors Jrs.	Undergrad. majors Srs.	Graduate student Total	1st yr.	1979-80 ASTRONOMY DEGREES BS BA	MS	TMS	PhD
MICHIGAN											
MI State U.	S	67	319	15	9	-	-	7			
**MI-U.of	S	60	1 459	6	8	11	1	5	0	1	1
STATE TOTAL		127	1 778	21	17	11	1	12	0	1	1
MINNESOTA											
Mankato State U.	C	10	125	3	3	-	-	4			
**MN-U.of	S	-	3 600	3	5	8	2	4	0	0	1
STATE TOTAL		10	3 725	6	8	8	2	8	0	0	1
MISSOURI											
**MO-U.of-Columbia	C	8	198	0	0	3	2	0	1	0	0
STATE TOTAL		8	198	0	0	3	2	0	1	0	0
NEBRASKA											
**NE-U.of-Lincoln	C	-	400	0	0	1	0	0	0	0	1
STATE TOTAL		-	400	0	0	1	0	0	0	0	1
NEW JERSEY											
**Princeton U.	S	18	0	3	0	13	2	1	0	0	1
STATE TOTAL		18	0	3	0	13	2	1	0	0	1
NEW MEXICO											
1**NM State U.	S	40	500	-	-	17	5	-	3	0	1
NM-U.of	C	25	300	2	3	-	-	2			
STATE TOTAL		65	800	2	3	17	5	2	3	0	1
NEW YORK											
**Columbia U.	S	50	600	3	2	7	3	3	2	3	1
1**Cornell U.	S	225	450	-	-	20	4	-	4	0	6
**Rochester-U.of	C	27	40	6	3	9	2	7	0	0	1
**SUNY-Stony Brook (Earth & Space Sciences	S	50	600	4	3	13	2	2	0	0	1
Vassar College	C	6	50	1	0	-	-	0			
STATE TOTAL		358	1 740	14	8	49	11	12	6	3	9

Institution	Type of Dept.	1980-81 ASTRONOMY ENROLLMENTS Introductory Sci.	Introductory Nonsci.	Undergrad. majors Jrs.	Undergrad. majors Srs.	Graduate student Total	1st yr.	1979-80 ASTRONOMY DEGREES BS BA	MS	TMS	PhD
OHIO											
**Case Western Reserve U.	S	9	77	3	2	3	1	4	0	0	1
Mount Union College	C	-	25	4	0	-	-	1			
**Ohio State U.	S	55	2 500	8	5	22	2	2	0	0	6
Youngstown State U.	C	-	1 000	1	0	-	-	0			
STATE TOTAL		64	3 602	16	7	25	3	7	0	0	7
OKLAHOMA											
**OK-U.of	C	94	2 101	3	9	1	1	3	0	0	1
STATE TOTAL		94	2 101	3	9	1	1	3	0	0	1
PENNSYLVANIA											
Haverford College	S	5	67	2	5	-	-	2			
Lycoming College	C	-	83	2	1	-	-	2			
**PA State U.	S	128	1 822	8	8	16	5	8	1	1	1
**PA-U.of	S	44	417	3	5	10	2	5	0	0	2
1**Pittsburgh-U.of	C	(60)	(150)	-	-	7	3	-	0	0	0
Swarthmore College	S	9	76	0	0	-	-	1			
Villanova U.	S	208	92	5	7	-	-	5			
STATE TOTAL		454	2 707	20	26	33	10	23	1	1	3
SOUTH CAROLINA											
**Clemson U.	C	25	540	0	0	6	3	0	0	1	0
STATE TOTAL		25	540	0	0	6	3	0	0	1	0
TENNESSEE											
*Vanderbilt U.	C	10	89	1	0	3	1	2	2	1	
STATE TOTAL		10	89	1	0	3	1	2	2	1	
TEXAS											
1**Rice U.-Space Physics	S	37	63	-	-	29	9	-	3	1	8
**TX-U.of-Austin	S	42	1 825	22	10	45	8	5	3	1	6
STATE TOTAL		79	1 888	22	10	74	17	5	6	2	14
UTAH											
**Brigham Young U.	C	11	172	0	0	5	1	0	0	0	0
STATE TOTAL		11	172	0	0	5	1	0	0	0	0

Institution	Type of Dept.	1980-81 ASTRONOMY ENROLLMENTS Introductory Sci.	Introductory Nonsci.	Undergrad. majors Jrs.	Undergrad. majors Srs.	Graduate student Total	1st yr.	1979-80 ASTRONOMY DEGREES BS BA	MS	TMS	PhD
VERMONT											
Marlboro College	C	-	14	0	1	-	-	0			
STATE TOTAL		-	14	0	1	-	-	0			
VIRGINIA											
**VA-U.of	S	40	800	13	4	16	5	5	1	1	0
STATE TOTAL		40	800	13	4	16	5	5	1	1	0
WASHINGTON											
**WA-U.of	S	100	1 600	10	3	18	2	2	0	0	4
STATE TOTAL		100	1 600	10	3	18	2	2	0	0	4
WISCONSIN											
**WI-U.of-Madison	S	-	470	2	12	10	2	4	3	0	3
STATE TOTAL		-	470	2	12	10	2	4	3	0	3
WYOMING											
WY-U.of	C	7	176	2	3	-	-	2			
STATE TOTAL		7	176	2	3	-	-	2			
U.S. TOTAL		3 113	40 524	275	238	686	164	165	54	27	106

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DATA ON PHYSICS ENROLLMENTS AND DEGREES

a SUPPLEMENT

AIP Pub. No. R-151.18A by Susanne D. Ellis February 1981

SUPPLEMENT

The detailed data from the annual Survey of Enrollments and Degrees are presented in this supplement. The 1979–80 physics degrees and the 1980–81 physics enrollments are listed for each physics degree-granting college or university in the fifty United States. Institutions are listed alphabetically by state. Those institutions with one asterisk in front of the name grant master's degrees as their highest physics degrees. Those institutions with two asterisks in front of the name grant doctor's degrees as their highest physics degrees. The data shown for each institution consist of undergraduate physics majors, full-time and part-time graduate students, first-year graduate students included in that total, and physics degrees granted at all levels. All freshmen and sophomore enrollments are estimated by the department chairmen. Numbers shown in brackets are estimates based on data supplied by that institution in an earlier year.

[1]No undergraduate degree program in physics

[2]Graduate degree program in physics discontinued

[3]Changed to physics master's degree program

MEMBER SOCIETIES:
AMERICAN PHYSICAL SOCIETY • OPTICAL SOCIETY OF AMERICA • ACOUSTICAL SOCIETY OF AMERICA • SOCIETY OF RHEOLOGY • AMERICAN ASSOCIATION OF PHYSICS TEACHERS • AMERICAN CRYSTALLOGRAPHIC ASSOCIATION • AMERICAN ASTRONOMICAL SOCIETY • AMERICAN ASSOCIATION OF PHYSICISTS IN MEDICINE • AMERICAN VACUUM SOCIETY

Institution	1980-81 PHYSICS ENROLLMENTS: Undergraduate physics majors: Fresh-men	Sopho-mores	Jr's	Sr's	Graduate students: Total	1st yr.	1979-80 PHYSICS DEGREES: Bach.	MS	TMS	PhD's
ALABAMA										
AL A & M U.	4	8	7	2			2			
AL State U.	0	0	1	3			0			
**AL-U.of-Birmingham	6	6	4	6	16	4	3	3	1	1
**AL-U.of-Huntsville	1	2	4	6	35	11	5	1	0	2
**AL-U.of-University	10	6	5	6	12	4	0	1	1	0
**Auburn U.	12	14	7	12	21	7	13	1	2	0
Birmingham-Southern Col.	4	3	4	2			0			
Jacksonville State U.	(5)	(5)	(2)	(1)			(2)			
North AL-U.of	4	4	3	2			3			
Samford U.	4	1	0	2			0			
South AL-U.of	(3)	(3)	2	2			0			
Stillman Col.	2	2	2	1			1			
Talladega Col.	10	12	8	5			3			
Tuskegee Institute	0	2	2	1			0			
ALASKA										
**AK-U.of	6	4	2	4	18	8	3	1	0	0
ARIZONA										
**AZ State U.	21	28	26	25	42	16	8	1	4	2
**AZ-U.of	51	38	31	26	59	16	19	2	5	8
Northern AZ U.	(8)	(8)	(7)	(6)			(4)			
ARKANSAS										
AR State U.	11	7	7	4			2			
**AR-U.of-Fayetteville	25	27	30	12	32	14	7	0	1	1
AR-U.of-Little Rock	25	30	13	24			7			
AR-U.of-Monticello	10	4	10	2			2			
Central AR-U.of	7	6	4	3			1			
Harding U.	5	3	1	0			2			
Henderson State U.	4	4	5	2			1			
Hendrix Col.	(8)	(8)	(7)	(1)			(4)			
Ouachita Baptist U.	(2)	1	4	7			1			
Southern AR U.	6	4	2	0			2			
CALIFORNIA										
**CA Institute of Tech.	20	20	31	43	114	25	19	9	0	27
CA Lutheran Col.	0	0	0	0			1			
CA Polytechnic State U.	18	14	12	14			4			
CA State Col.-Bakersfield	(3)	(3)	(2)	(3)			(1)			
CA State Col.-San Bernardino	4	4	4	2			1			
*CA State Col.-Stanislaus	6	6	4	4	1	0	2	0	1	
CA State Poly U.-Pomona	15	12	12	12			5			
CA State U.-Chico	0	1	1	5			4			
CA State U.-Dominguez Hills	(5)	(5)	(3)	(3)			(10)			

Institution	1980 - 1981 PHYSICS ENROLLMENTS: Undergraduate physics majors: Fresh-men	Sopho-mores	Jr's	Sr's	Graduate students: Total	1st yr.	1979 - 1980 PHYSICS DEGREES: Bach.	MS	TMS	PhD's
CALIFORNIA (cont'd)										
*CA State U.-Fresno	11	8	10	10	17	5	6	0	4	
CA State U.-Fullerton	(15)	(15)	(15)	(17)			(19)			
CA State U.-Hayward	20	20	10	10			10			
*CA State U.-Long Beach	13	14	14	19	37	17	10	4	1	
*CA State U.-Los Angeles	12	9	18	20	24	12	10	0	3	
*CA State U.-Northridge	25	22	34	3	15	6	10	0	3	
CA State U.-Sacramento	7	7	15	5			7			
**CA-U.of-Berkeley	145	165	69	98	266	43	56	23	2	46
**CA-U.of-Davis (Physics)	67	8	25	18	41	10	17	0	1	2
1**CA-U.of-Davis (Applied)	-	-	-	-	80	19	-	16	4	17
**CA-U.of-Irvine	75	40	48	18	55	11	27	5	1	4
**CA-U.of-Los Angeles	115	38	57	53	199	44	44	27	15	15
**CA-U.of-Riverside	7	5	20	11	47	8	8	2	0	6
**CA-U.of-San Diego (Physics)	50	38	48	38	109	22	32	10	0	8
**CA-U.of-San Diego (E.E.)	3	7	8	16	47	19	4	2	7	2
**CA-U.of-Santa Barbara	22	20	37	17	73	26	31	1	19	7
**CA-U.of-Santa Cruz	35	30	41	37	22	6	16	0	0	6
Claremont Men's, Pitzer & Scripps Cols.	4	3	2	2			2			
Harvey Mudd Col.	30	25	21	17			20			
Humboldt State U.	12	14	10	5			7			
La Verne-U.of	2	1	3	3			1			
Loma Linda U.	5	2	2	1			2			
Loyola Marymount U.	5	1	7	2			0			
1**Naval Postgraduate School	-	-	-	-	25	11	-	0	15	0
Occidental Col.	35	26	14	9			7			
Pacific Union Col.	10	7	5	5			8			
*Pacific-U.of	3	2	2	2	2	1	1	1	0	
Point Loma Col.	17	3	2	2			1			
Pomona Col.	20	12	7	8			5			
Redlands-U.of	(3)	(3)	(3)	(2)			(2)			
*San Diego State U.	25	50	35	20	30	12	20	0	11	
San Diego-U.of	4	3	0	1			2			
*San Francisco State U.	25	20	20	15	32	15	9	1	3	
San Francisco-U.of	5	5	5	5			4			
*San Jose State U.	22	17	24	15	18	3	7	1	3	
Santa Clara-U.of	12	14	14	6			8			
Sonoma State U.	18	13	22	6			13			
**Southern CA-U.of	12	15	12	12	35	12	6	3	2	5
**Stanford U. (Physics)	20	20	22	20	119	29	26	13	0	20
1**Stanford U. (Applied)	-	-	-	-	93	22	-	7	1	6
Whittier Col.	3	3	3	2			3			
COLORADO										
Adams State Col.	0	0	0	0	Major terminated (3)					
CO Col.	5	5	2	8			5			
**CO School of Mines	26	20	19	13	12	5	13	1	0	0

Institution	1980 - 1981 PHYSICS ENROLLMENTS: Undergraduate physics majors				Graduate students		1979 - 1980 PHYSICS DEGREES			
	Fresh-men	Sopho-mores	Jr's	Sr's	Total	1st yr.	Bach.	MS	TMS	PhD's
COLORADO (cont'd)										
**CO State U.	36	28	9	14	35	6	10	2	4	6
**CO-U.of-Boulder	112	56	51	76	100	24	36	4	5	13
CO-U.of-Denver	(10)	(10)	(10)	(8)			3			
**Denver-U.of	46	21	8	4	24	8	4	0	1	0
Metropolitan State Col.	6	8	7	8			1			
*Northern CO-U.of	4	6	2	3	0	0	4	0	2	
Regis Col.	2	2	3	2			0			
Southern CO-U.of	4	4	5	3			4			
U.S. Air Force Academy	30	30	31	32			28			
Western State Col.of CO	6	6	5	1			1			
CONNECTICUT										
*Bridgeport-U.of	3	5	4	8	17	4	5	0	3	
*Central CT State Col.	10	4	2	2	3	0	2	0	0	
CT Col.	3	3	4	1			1			
**CT-U.of	20	14	17	12	63	13	6	6	5	8
Fairfield U.	7	6	5	4			8			
Hartford-U.of	5	5	5	4			3			
New Haven-U.of	(2)	(2)	(1)	(1)			(1)			
Southern CT State Col.	12	10	2	5			6			
Trinity Col.	4	5	2	3			3			
U.S. Coast Guard Academy	0	0	0	0			5			
**Wesleyan U.	8	10	9	7	9	2	6	0	1	0
**Yale U.	30	30	32	38	104	24	22	14	0	13
DELAWARE										
DE State Col.	5	5	9	2			0			
**DE-U.of	20	15	12	9	44	10	9	4	1	6
DISTRICT OF COLUMBIA										
**American U.	7	8	7	3	28	4	8	4	2	2
**Catholic U.	7	6	4	2	44	8	2	5	0	3
DC-U.of	18	14	2	4			4			
Gallaudet Col.	2	1	3	0			1			
**George Washington U.	5	6	6	3	2	0	3	0	0	0
**Georgetown U.	14	11	5	0	44	7	5	2	2	2
**Howard U.	9	5	4	3	23	3	6	7	2	1
FLORIDA										
Central FL-U.of	10	15	15	8			6			
FL A & M U.	6	6	5	4			2			
*FL Atlantic U.	0	0	14	8	0	0	6	1	0	
*FL Institute of Tech.	16	8	7	2	12	3	2	0	2	
FL International U.	4	4	5	6			1			
**FL State U.	25	30	23	6	39	9	20	0	2	6
**FL-U.of	8	12	43	35	53	15	9	0	1	4

Institution	1980 - 1981 PHYSICS ENROLLMENTS: Undergraduate physics majors — Fresh-men	Sopho-mores	Jr's	Sr's	Graduate students — Total	1st yr.	1979 - 1980 PHYSICS DEGREES — Bach.	MS	TMS	PhD's
FLORIDA (cont'd)										
Jacksonville U.	10	10	7	5			5			
**Miami-U.of	12	10	8	5	14	6	5	0	0	2
New Col.of U.South FL	1	1	3	1			2			
Rollins Col.	1	6	3	3			3			
*South FL-U.of (PhD granted through Engr.Dept.)	8	7	15	8	14	3	9	0	6	1
Stetson U.	4	5	4	1			6			
West FL-U.of	0	0	21	13			10			
GEORGIA										
Agnes Scott Col.	2	2	2	1			0			
1*Atlanta U.	-	-	-	-	5	5	-	0	0	
Augusta Col.	2	3	3	4			1			
Berry Col.	2	2	1	0			2			
Clark Col.	5	2	12	6			2			
**Emory U.	5	8	9	5	9	2	6	1	1	0
**GA Inst. of Tech.	44	47	42	48	63	18	36	3	6	5
GA Southern Col.	1	7	3	3			4			
*GA State U.	12	12	10	4	18	9	3	0	5	
**GA-U.of	11	10	8	6	22	7	7	0	0	1
Mercer U.	3	3	1	6			0			
Morehouse Col.	(4)	(4)	4	3			3			
North GA Col.	12	15	10	11			5			
Valdosta State Col.	11	15	4	6			1			
West GA Col.	17	11	4	8			0			
HAWAII										
HI-U.of-Hilo	2	2	0	0			0			
**HI-U.of-Honolulu	5	11	16	20	18	4	7	3	0	0
IDAHO										
Boise State U.	9	9	10	2			3			
*ID State U.	7	3	3	4	2	0	1	0	3	
**ID-U.of	7	5	11	2	9	0	3	0	2	2
Northwest Nazarene Col.	8	6	6	3			3			
ILLINOIS										
Augustana Col.	6	3	8	8			10			
Bradley U.	2	4	4	0			2			
**Chicago-U.of	34	20	26	15	115	31	14	9	5	9
*De Paul U.	10	9	2	1	15	3	(5)	0	4	
Eastern IL U.	4	2	6	9			8			
Elmhurst Col.	12	6	4	4			10			
Eureka Col.	2	2	3	1			0			
Greenville Col.	3	4	5	0			3			
Il Benedictine Col.	3	3	3	3			6			

Institution	1980 - 81 PHYSICS ENROLLMENTS						1979 - 80 PHYSICS DEGREES			
	Undergraduate physics majors				Graduate students					
	Fresh-men	Sopho-mores	Jr's	Sr's	Total	1st yr.	Bach.	MS	TMS	PhD's
ILLINOIS (cont'd)										
IL Col.	1	1	6	0			0			
**IL Institute of Tech.	10	10	5	6	17	11	6	2	4	1
IL State U.	20	15	13	8			7			
**IL-U.of-Chicago Circle	15	15	11	17	43	8	2	4	2	4
**IL-U.of-Urbana	78	63	57	51	287	66	38	31	10	31
IL Weyleyan U.	10	4	4	1			7			
Knox Col.	3	3	7	6			2			
Lake Forest Col.	6	6	6	5			4			
Lewis U.	3	2	1	2			0			
Loyola U. of Chicago	26	19	9	9			2			
Mac Murray Col.	(0)	(0)	(0)	(1)			(1)			
Milliken U.	0	1	3	0			1			
Monmouth Col.	8	4	1	1			4			
North Central Col.	(3)	(3)	(2)	(1)			(2)			
North Park Col.	4	2	4	0			1			
*Northeastern IL U.	(10)	(10)	(8)	(6)	(17)	(5)	(5)	(0)	(3)	
*Northern IL U.	25	15	14	8	23	7	12	3	3	
**Northwestern U.	10	12	5	5	49	15	18	4	5	4
Olivet Nazarene Col.	5	4	2	2			4			
Principia Col.	3	2	3	2			5			
Roosevelt U.	3	2	5	3			1			
*Southern IL U.-Carbondale	30	30	8	10	14	7	6	3	3	
*Southern IL U.-Edwardsville	5	5	5	5	7	2	5	0	1	
*Western IL U.	10	4	2	1	5	2	3	4	2	
Wheaton Col.	25	17	9	7			7			
INDIANA										
Anderson Col.	4	3	3	2			1			
*Ball State U.	20	15	20	10	10	5	5	2	0	
Butler U.	(3)	(3)	(1)	(1)			(2)			
DePauw U.	5	5	5	1			1			
Earlham Col.	7	6	6	5			5			
Evansville-U.of	0	1	3	2			2			
Franklin Col.of IN	1	1	0	0			1			
Goshen Col.	5	4	3	4			4			
Hanover Col.	3	3	1	3			1			
IN Central U.	5	5	0	3			1			
*IN State U.	8	5	4	4	17	6	4	0	3	
**IN U-Bloomington	6	25	25	24	74	18	15	4	4	4
IN U-South Bend	2	7	3	7			1			
IN U.-Purdue U.-Fort Wayne	2	2	3	3			1			
IN U.-Purdue U.-Indianapolis	4	5	1	1			0			
Manchester Col.	3	2	0	2			2			
**Notre Dame-U.of	23	16	19	7	37	9	14	0	0	3
**Purdue U.-West Lafayette	60	36	18	18	128	29	22	7	10	12
Purdue U.-Calumet	(2)	(2)	(1)	(2)			(2)			
Rose-Hulman Inst. of Tech.	15	5	9	1			6			
Taylor U.	2	3	3	1			2			

Institution	1980 - 1981 PHYSICS ENROLLMENTS: Undergraduate physics majors: Fresh-men	Sopho-mores	Jr's	Sr's	Graduate students: Total	1st yr.	1979 - 1980 PHYSICS DEGREES: Bach.	MS	TMS	PhD's
INDIANA (cont'd)										
Valparaiso U.	6	13	5	4			5	7		
Wabash Col.	4	4	4	4			3			
IOWA										
Central Col.	3	3	1	2			2			
Coe Col.	8	6	4	3			4			
Cornell Col.	0	0	3	2			1			
Dordt Col.	2	2	2	0			0			
*Drake U.	10	3	1	2	1	0	3	0	2	
Dubuque-U.of	1	1	1	0			0			
Grinnell Col.	8	8	9	4			5			
**IA State U.	26	22	16	22	85	28	15	0	4	8
**IA-U.of	15	12	12	21	32	5	11	5	1	5
Loras Col.	2	3	1	1			0			
Luther Col.	11	10	10	3			6			
Maharishi International U.	10	21	6	6			3			
Morningside Col.	(2)	(2)	(1)	(2)			(1)			
*Northern IA-U.of	6	4	2	11	0	0	4	0	1	
St. Ambrose Col.	3	2	2	1			3			
Wartburg Col.	2	1	2	1			4			
KANSAS										
Baker U.	(2)	(3)	(2)	(0)			(1)			
Benedictine Col.	3	3	4	3			5			
Bethel Col.	7	4	3	3			1			
*Emporia State U.	3	3	3	6	2	0	4	1	0	
Fort Hays State U.	8	6	4	3			2			
**KS State U.	24	3	5	5	18	4	2	1	3	0
**KS-U.of	13	19	13	13	37	8	6	4	0	2
KS Wesleyan U.	(1)	(0)	(1)	(2)			(1)			
Mid-America Nazarene Col.	4	5	6	3			0			
Ottawa U.	(1)	(1)	(1)	(1)			(0)			
*Pittsburgh State U.	7	5	6	5	4	2	7	0	5	
Southwestern Col.	(1)	(2)	(2)	(0)			(0)			
Washburn U.	2	2	1	3			1			
*Wichita State U.	4	4	4	3	11	6	4	1	1	
KENTUCKY										
Berea Col.	10	5	2	2			2			
Centre Col. of KY	6	4	6	4			4			
*Eastern KY U.	6	2	10	4	1	0	7	0	2	
Georgetown Col.	2	1	1	0			0			
**KY-U.of	16	14	19	10	20	13	4	1	4	2
KY Wesleyan Col.	(1)	(1)	(1)	(1)			(2)			
*Louisville-U.of	6	4	5	2	8	3	4	3	1	2
Morehead State U.	2	0	1	3			1			

Institution	1980 - 1981 PHYSICS ENROLLMENTS						1979 -1980 PHYSICS DEGREES			
	Undergraduate physics majors				Graduate students					
	Fresh-men	Sopho-mores	Jr's	Sr's	Total	1st yr.	Bach.	MS	TMS	PhD's
KENTUCKY (cont'd)										
*Murray State U.	60	48	41	26	4	2	13	0	0	
Northern KY U.	4	1	2	5			0			
Thomas More Col.	14	11	10	4			5			
Transylvania U.	(2)	(2)	(3)	(4)			(6)			
*Western KY U.	14	9	5	9	3	2	6	3	0	
LOUISIANA										
Centenary Col.	16	13	5	1			4			
Dillard U.	6	8	3	2			3			
Grambling State U.	8	6	3	4			1			
**LA State U.-Baton Rouge	18	11	8	13	31	4	4	2	0	2
LA State U.-Shreveport	10	5	2	0			0			
*LA Tech U.	12	5	5	3	3	1	3	0	0	
Loyola U.	16	9	8	7			0			
Mc Neese State U.	2	3	2	2			2			
**New Orleans-U. of	13	2	3	13	14	4	2	0	1	2
*Northeast LA U.	6	3	3	1	4	2	2	0	1	
*Northwestern State U.of LA	3	4	3	0	2	1	1	0	0	
Southeastern LA U.	2	3	2	3			1			
Southern U.-Baton Rouge	9	10	7	4			3			
Southern U.-New Orleans	2	3	5	3			1			
*Southwestern LA-U.of	3	4	4	5	6	4	3	0	0	
**Tulane U.	6	6	10	6	11	4	4	1	1	0
Xavier U. of LA	1	0	1	1			0			
MAINE										
Bates Col.	10	8	4	7			10			
Bowdoin Col.	6	5	9	8			5			
Colby Col.	10	13	6	8			5			
**ME-U.of	18	18	17	12	16	5	16	2	6	2
MARYLAND										
Columbia Union Col.	2	4	1	0			1			
Frostburg State Col.	6	6	5	2			1			
**Johns Hopkins U.	11	10	12	10	60	12	10	5	0	4
Loyola Col.	7	1	4	2			2			
MD-U.of-Baltimore County	2	5	4	3			6			
**MD-U.of-College Park	40	35	35	32	193	35	18	12	5	19
Morgan State U.	30	15	9	7			3			
Notre Dame of MD-Col. of	0	0	0	0			0			
Towson State U.	18	12	15	7			2			
U.S. Naval Academy	40	40	23	41			36			
Washington Col.	2	0	1	1			1			
Western MD Col.	2	1	1	3			3			

Institution	1980 - 1981 PHYSICS ENROLLMENTS						1979 - 1980 PHYSICS DEGREES			
	Undergraduate physics majors				Graduate students					
	Fresh-men	Sopho-mores	Jr's	Sr's	Total	1st yr.	Bach.	MS	TMS	PhD's
MASSACHUSETTS										
Amherst Col.	(10)	(10)	10	14			12			
**Boston Col.	16	11	14	9	30	7	10	1	3	1
Boston State Col.	10	10	6	2			2			
**Boston U.	20	15	12	6	55	12	4	1	1	4
**Brandeis U.	11	11	9	11	41	11	15	1	3	4
Bridgewater State U.	3	5	5	3			2			
**Clark U.	6	5	6	4	9	4	5	0	2	0
Curry Col.	0	0	2	1			1			
Eastern Nazarene Col.	(3)	(3)	(3)	(1)			(3)			
Gordon Col.	8	6	1	3			3			
Hampshire Col.	8	6	4	3			3			
**Harvard U.- incl.Radcliffe	(50)	58	44	60	94	12	59	17	7	22
**Harvard U.-(Applied)	0	3	0	1	154	34	34	37	11	30
Holy Cross-Col.of the	9	12	10	11			14			
**Lowell-U.of	27	18	21	25	49	22	14	1	12	3
**MIT	80	81	97	81	300	68	72	12	0	24
**MA-U.of-Amherst	12	16	24	14	72	13	17	5	4	9
*MA-U.of-Boston	16	15	9	11	6	6	7	0	0	
Mount Holyoke Col.	7	7	7	4			7			
North Adams State Col.	6	10	6	4			5			
**Northeastern U.	8	12	4	1	65	16	4	8	1	0
Smith Col.	8	6	4	8			3			
*Southeastern MA U.	10	5	8	2	2	1	5	0	2	
Stonehill Col.	0	0	0	1	Major terminated		2			
Suffolk U.	(5)	(5)	(5)	(8)			(0)			
**Tufts U.	4	4	8	22	22	6	6	2	4	1
Wellesley Col.	4	6	6	7			2			
Wheaton Col.	2	2	3	2			0			
Williams Col.	15	12	7	7			7			
**Worcester Polytechnic Inst.	23	13	13	11	6	4	13	1	2	1
Worcester State Col.	6	4	4	0			3			
MICHIGAN										
Adrian Col.	6	3	2	0			0			
Albion Col.	18	15	9	7			11			
Alma Col.	(4)	(4)	(4)	(3)			(2)			
*Andrews U.	2	5	3	3	5	2	3	0	2	
Calvin Col.	6	9	3	4			10			
*Central MI U.	5	3	5	2	6	3	6	2	1	
*Eastern MI U.	7	5	12	9	18	6	4	1	2	
Grand Valley State Col.	3	2	3	4			1			
Hillsdale Col.	2	2	1	2			0			
Hope Col.	8	10	8	12			5			
Kalamazoo Col.	12	10	16	9			6			
Lake Superior State Col.	(1)	(1)	(0)	(0)			(0)			
Lawrence Institute of Tech.	10	8	6	3			5			
**MI State U.	32	21	34	10	91	33	13	6	3	8
*MI Technological U.	25	16	16	4	1	0	8	1	0	

Institution	1980 - 1981 PHYSICS ENROLLMENTS						1979 - 1980 PHYSICS DEGREES			
	Undergraduate physics majors				Graduate students					
	Fresh-men	Sopho-mores	Jr's	Sr's	Total	1st yr.	Bach.	MS	TMS	PhD's
MICHIGAN (cont'd)										
**MI-U.of-Ann Arbor	65	50	50	38	111	27	25	8	5	7
MI-U.of-Dearborn	8	10	10	6			4			
MI-U.of-Flint	(4)	(4)	4	4			5			
Northern MI U.	3	3	2	2			3			
*Oakland U.	(20)	(20)	(16)	(15)	(13)	(5)	(18)	(4)	(1)	
*Saginaw Valley State Col.	3	9	4	0	1	1	3	0	0	
Spring Arbor Col.	(2)	(2)	(3)	(2)			(0)			
**Wayne State U.	16	10	11	10	30	4	3	4	1	5
*Western MI U.	13	22	8	3	17	9	4	1	0	
MINNESOTA										
Augsburg Col.	8	5	8	5			2			
Bemidji State U.	12	12	12	(4)			4			
Bethel Col.	10	3	2	2			3			
Carleton Col.	15	25	20	13			19			
Concordia Col.	5	5	4	1			6			
Gustavus Adolphus Col.	20	20	6	3			4			
Hamline U.	15	15	15	5			4			
Macalester Col.	9	7	9	8			6			
*Mankato State U.	56	27	31	35	21	2	19	0	3	
*MN-U.of-Duluth	7	7	6	4	5	1	4	0	1	
**MN-U.of-Minneapolis	31	18	24	37	94	28	30	0	2	7
MN-U.of-Morris	(10)	(10)	(6)	(6)			(4)			
Moorhead State U.	2	5	3	1			5			
St. Catherine-Col.of	2	1	1	0			0			
St. Cloud State U.	8	8	5	6			4			
St. John's U.	10	12	4	7			1			
St. Mary's Col.	8	4	4	4			2			
St. Olaf Col.	29	23	10	9			13			
St. Thomas-Col.of	3	2	4	3			1			
Southwest State U.	3	3	3	1			3			
Winona State U.	0	0	2	0			1			
MISSISSIPPI										
Jackson State U.	7	5	8	2			2			
Millsaps Col.	3	3	3	2			1			
MS Col.	2	2	4	1			3			
**MS State U.	4	2	5	1	3	1	0	0	0	1
**MS-U.-of	5	4	6	3	12	7	4	0	0	0
MS Valley State U.	3	2	3	4			2			
Rust Col.	(2)	(2)	(1)	(1)			(1)			
*Southern MS-U.of	6	6	6	5	3	0	2	0	0	
Tougaloo Col.	5	3	5	3			3			
MISSOURI										
Central Methodist Col.	1	1	1	0			0			
Central MO State U.	1	3	1	2			4			
Drury Col.	1	2	2	1			1			

Institution	1980 - 1981 PHYSICS ENROLLMENTS						1979 - 1980 PHYSICS DEGREES			
	Undergraduate physics majors				Graduate students					
	Fresh-men	Sopho-mores	Jr's	Sr's	Total	1st yr.	Bach.	MS	TMS	PhD's
MISSOURI (cont'd)										
MO Southern State Col.	2	1	2	2			2			
**MO-U.of-Columbia	10	8	10	2	29	3	4	0	2	4
*MO-U.of-Kansas City	5	5	7	2	14	2	3	0	1	
**MO-U.of-Rolla	15	18	4	18	28	8	6	5	1	4
*MO-U.of-St. Louis	6	6	6	6	24	12	5	0	9	
Northeast MO State U.	20	21	6	3			7			
Northwest MO State U.	1	0	1	0			1			
Rockhurst Col.	2	2	0	0			4			
**St. Louis U.	5	3	1	6	8	1	2	0	0	0
*Southeast MO State U.	(10)	(8)	(5)	(4)	(2)	(1)	(3)	(0)	(0)	
Southwest MO State U.	(10)	20	19	15			17			
**Washington U.	28	21	16	15	58	15	14	5	0	15
Westminster Col.	2	0	1	1			0			
William Jewell Col.	6	10	4	5			8			
MONTANA										
**MT State U.	18	18	6	19	22	3	13	9	0	3
*MT-U.of	15	8	3	4	2	1	1	0	0	
NEBRASKA										
Chadron State Col.	(4)	(4)	(4)	(4)			(4)			
Concordia Teachers Col.	8	8	6	2			2			
*Creighton U.	11	7	10	6	7	4	4	0	0	
Hastings Col.	8	6	6	1			4			
Kearney State Col.	(2)	(3)	(3)	(2)			(7)			
**NE-U.of-Lincoln	14	17	7	14	31	7	7	4	0	3
NE-U.of-Omaha	18	10	6	8			7			
NE Wesleyan U.	10	8	5	8			4			
Union Col.	(0)	(2)	(0)	(1)			(0)			
Wayne State Col.	(0)	(0)	1	0			(0)			
NEVADA										
*NV-U.of-Las Vegas	6	5	4	4	4	2	2	0	1	
**NV-U.of-Reno	2	2	2	2	16	5	2	0	3	2
NEW HAMPSHIRE										
**Dartmouth Col.	(5)	2	15	9	23	5	19	0	3	5
Keene St.Col.	(5)	(5)	(4)	(4)			(2)			
**NH-U.of	10	(12)	20	10	20	11	7	1	3	0
NEW JERSEY										
Drew U.	3	3	2	3			3			
Fairleigh Dickinson U.-Madison	2	2	2	2			3			
*Fairleigh Dickinson U.-Teaneck	5	6	3	4	9	5	6	0	4	
Georgian Court Col.	1	2	3	3			3			
*Monmouth Col.	1	3	2	3			5	0	0	
Montclair State Col.	4	7	2	2			2			

Institution	1980 - 1981 PHYSICS ENROLLMENTS: Undergraduate physics majors — Fresh-men	Sopho-mores	Jr's	Sr's	Graduate students — Total	1st yr.	1979 - 1980 PHYSICS DEGREES — Bach.	MS	TMS	PhD's
NEW JERSEY (cont'd)										
**Princeton U.	70	68	27	19	83	18	25	17	1	13
Rider Col.	(2)	(2)	2	1			0			
**Rutgers U.-Busch Campus	(15)	20	25	24	83	27	19	1	7	6
Rutgers U.-Camden Col.ofA&S	(5)	(5)	4	4			2			
Rutgers U.-Newark Col.ofA&S	5	5	4	4			1			
Saint Peters Col.	4	4	1	0			2			
Seton Hall U.	5	3	0	2			5			
**Stevens Inst. of Tech.	20	15	31	19	67	18	19	5	2	6
Stockton State Col.	12	10	5	9			11			
Trenton State Col.	3	6	5	8			4			
NEW MEXICO										
Eastern NM U.	1	1	2	2			1			
NM Highlands U.	4	6	4	0			2			
**NM Inst.of Mining & Tech.	30	15	9	16	11	0	2	5	1	0
**NM State U.	5	2	4	10	33	7	10	3	2	2
**NM-U.of	(15)	22	12	12	59	17	10	4	1	0
NEW YORK										
**Adelphi U.	9	8	10	6	31	4	4	1	4	0
Alfred U.	(4)	(4)	(5)	(3)			(2)			
Bard Col.	3	3	1	5			2			
Barnard Col.at Columbia U.	2	2	2	2			1			
**Brooklyn Col.	10	10	8	3	23	6	1	0	1	4
*C.W.Post Col.	3	3	5	2	2	0	1	0	0	
Canisius Col.	5	3	1	1			1			
**City Col.of the CUNY	12	10	7	5	69	19	11	1	2	10
**Clarkson Col.of Tech.	20	13	10	7	19	2	6	1	3	0
Colgate U.	(15)	(15)	14	8			7			
**Columbia U.	6	7	6	22	122	20	11	15	2	14
**Cornell U.-(Physics)	(50)	(40)	31	35	170	38	27	16	7	19
**Cornell U.-(Applied & Engr)	-	-	35	27	61	15	33	9	4	10
**Fordham U.	(5)	(5)	2	4	3	0	2	0	1	1
Hamilton Col.	10	9	10	4			3			
Hartwick Col.	4	5	1	1			1			
Herbert H. Lehman Col.	10	8	8	7			2			
Hobart & Wm.Smith Cols.	2	2	2	1			2			
Hofstra U.	6	5	3	2			1			
Houghton Col.	2	7	2	1			3			
*Hunter Col.of the CUNY	(5)	(5)	1	1	19	8	4	0	1	
Iona Col.	5	11	5	3			2			
Ithaca Col.	18	2	2	2			2			
Le Moyne Col.	6	2	2	1			1			
Manhattan Col.	4	4	5	5			6			
NY Institute of Tech.	8	6	6	3			3			
**NYU	25	10	8	5	78	16	6	7	0	12
Niagara U.	(4)	(4)	(3)	(3)			(2)			
**Polytechnic Inst.of NY	5	3	2	1	29	6	4	4	2	0
**Queens Col.of the CUNY	10	5	9	9	15	2	9	0	2	1

Institution	1980 - 1981 PHYSICS ENROLLMENTS						1979 - 1980 PHYSICS DEGREES			
	Undergraduate physics majors				Graduate students					
	Fresh-men	Sopho-mores	Jr's	Sr's	Total	1st yr.	Bach.	MS	TMS	PhD's
NEW YORK (cont'd)										
**Rensselaer Polytech.Inst.	94	66	44	38	57	15	35	7	3	3
Roberts Wesleyan Col.	2	2	1	1			1			
Rochester Inst.of Tech.	12	8	2	9			8			
**Rochester-U.of	40	30	18	12	70	24	13	12	0	11
1**Rockefeller U.	-	-	-	-	8	2	-	-	-	1
*St.Bonaventure U.	3	2	3	1	4	0	1	0	0	
St.John Fisher Col.	6	3	3	3			0			
St.John's U.	7	4	4	2			5			
St.Lawrence U.	10	10	4	5			4			
Siena Col.	6	2	3	3			5			
**SUNY-Albany	20	25	29	24	45	11	14	3	4	5
3**SUNY-Binghamton	30	15	18	15	25	13	10	0	0	2
**SUNY-Buffalo	1	1	2	6	51	13	9	0	3	6
**SUNY-Stony Brook	(50)	(50)	35	31	146	23	38	27	6	12
SUNY Col.-Brockport	15	8	6	10			1			
SUNY Col.-Buffalo	9	6	4	4			3			
SUNY Col.-Cortland	56	35	18	3			7			
SUNY Col.-Fredonia	(10)	(10)	(5)	(5)			(5)			
*SUNY Col.-Geneseo	50	40	19	16	4	4	21	2	0	
*SUNY Col.-New Paltz	(3)	(3)	(5)	(4)	(4)	(2)	(3)	(0)	(1)	
SUNY Col.-Oneonta	17	19	22	12			13			
SUNY Col.-Oswego	12	10	10	8			7			
SUNY Col.-Plattsburgh	35	25	3	9			5			
SUNY Col.-Potsdam	50	30	12	12			20			
Staten Island-Col.of	0	0	0	1			2			
**Syracuse U.	48	22	8	5	36	6	2	6	2	5
Union Col.	(5)	(4)	(4)	(4)			(1)			
Utica Col.	(3)	(1)	(4)	(5)			(3)			
Vassar Col.	(5)	(5)	8	7			3			
Wagner Col.	12	6	6	2			2			
2**Yeshiva U.	2	2	2	3	2	0	1	0	0	1
York Col.of the CUNY	15	15	4	2			3			
NORTH CAROLINA										
Appalachian State U.	10	15	14	12			14			
Davidson Col.	8	6	(4)	4			5			
**Duke U.	32	17	11	10	44	8	9	0	1	3
*East Carolina U.	50	20	6	5	4	4	2	2	2	
Elizabeth City State U.	(2)	(2)	(2)	(2)			(2)			
Elon Col.	3	2	2	1			2			
Guilford Col.	12	10	10	8			9			
NC A & T State U.	0	2	3	3			1			
NC Central U.	4	10	3	0			0			
**NC State U.	30	15	19	9	53	9	7	1	1	8
NC-U.of-Asheville	10	20	15	10			7			
**NC-U.of-Chapel Hill	20	20	17	23	47	10	12	1	4	6
NC-U.of-Charlotte	4	6	6	2			4			

Institution	1980 - 1981 PHYSICS ENROLLMENTS						1979 - 1980 PHYSICS DEGREES			
	Undergraduate physics majors				Graduate students					
	Fresh-men	Sopho-mores	Jr's	Sr's	Total	1st yr.	Bach.	MS	TMS	PhD's
NORTH CAROLINA (cont'd)										
*NC-U.of-Greensboro	8	4	9	10	3	0	2	0	3	
NC-U.of-Wilmington	(2)	(4)	(3)	(2)			(2)			
Pfeiffer Col.	0	0	1	1			1			
*Wake Forest U.	15	15	12	10	4	3	5	0	0	
Warren Wilson Col.	4	4	5	1			2			
Western Carolina U.	9	9	5	4			3			
NORTH DAKOTA										
Minot State Col.	4	1	0	0			0			
**ND State U.	7	8	9	7	8	3	1	0	2	2
**ND-U.of	6	3	4	3	2	0	0	1	0	0
OHIO										
1**Air Force Institute of Tech.	-	-	-	-	28	14	-	2	12	1
*Akron-U.of	7	6	8	8	28	8	5	0	4	
Antioch Col.	2	2	2	1			5			
Ashland Col.	2	0	0	0			0			
Baldwin-Wallace Col.	(3)	(1)	(1)	(1)			(1)			
*Bowling Green State U.	10	5	2	3	7	3	10	0	5	
Capital U.	1	1	1	3			0			
**Case Western Reserve U.	16	15	10	13	35	14	18	1	3	2
**Cincinnati-U.of	13	17	9	10	48	9	9	0	4	3
*Cleveland State U.	10	10	10	6	6	0	0	0	1	
*Dayton-U.of	7	5	7	8	0	0	3	0	0	
Defiance Col.	0	1	0	0			0			
Denison U.	5	3	5	4			1			
Heidelberg Col.	3	1	2	5			2			
Hiram Col.	10	8	1	3			4			
*John Carroll U.	12	9	6	5	6	3	5	0	1	
**Kent State U.	16	9	7	7	53	12	6	3	0	1
Kenyon Col.	12	12	11	8			6			
*Miami U.	32	44	20	14	11	5	27	0	4	
Mount Union Col.	8	4	4	5			5			
Muskingum Col.	(0)	(0)	(0)	(1)			(2)			
Oberlin Col.	20	15	15	8			12			
OH Northern U.	0	1	0	1			2			
**OH State U.	13	28	25	40	112	30	18	6	0	9
**OH U.	17	20	6	4	59	10	5	1	6	0
OH Wesleyan U.	5	5	5	3			0			
Otterbein Col.	6	8	1	0			0			
**Toledo-U.of	22	12	10	6	24	3	10	1	4	0
Wittenberg U.	5	5	6	5			4			
Wooster-Col.of	5	5	7	0			1			
*Wright State U.	(10)	(8)	(2)	(3)	(8)	(1)	(6)	(0)	(3)	
Xavier U.	12	10	5	5			5			
Youngstown State U.	5	5	2	2			2			

Institution	1980 - 1981 PHYSICS ENROLLMENTS						1979 - 1980 PHYSICS DEGREES			
	Undergraduate physics majors				Graduate students					
	Fresh-men	Sopho-mores	Jr's	Sr's	Total	1st yr.	Bach.	MS	TMS	PhD's
OKLAHOMA										
Bethany Nazarene Col.	(6)	(3)	(3)	(3)			(0)			
Cameron U.	2	4	4	2			2			
*Central State U.	8	7	7	7	8	4	9	0	0	
East Central State U.	(23)	(20)	(12)	(10)			(5)			
Northeastern OK State U.	30	20	12	6			6			
Northwestern OK State U.	(2)	(2)	(1)	(1)			(1)			
OK City U.	1	2	15	11			11			
**OK State U.	17	15	12	8	31	12	3	1	4	5
**OK-U.of	29	14	22	12	31	4	10	2	4	4
Phillips U.	1	1	0	2			1			
Southeastern OK State U.	2	0	5	1			1			
Southwestern OK State U.	12	15	9	11			13			
Tulsa-U.of	5	4	6	5			6			
OREGON										
Eastern OR State Col.	4	6	5	3			5			
Lewis & Clark Col.	10	6	4	7			5			
Linfield Col.	4	2	2	1			1			
1**OR Graduate Center	-	-	-	-	31	4	-	0	1	2
**OR State U.	33	17	16	8	33	14	5	1	0	1
**OR-U.of	22	21	17	11	87	22	13	14	9	10
Pacific U.	0	1	4	5			3			
**Portland State U.	5	6	4	4	12	1	0	0	0	1
Portland-U.of	2	2	2	0			0			
Reed Col.	32	35	19	10			13			
Southern OR State Col.	3	4	6	4			2			
Willamette U.	10	10	8	6			6			
PENNSYLVANIA										
Albright Col.	5	3	3	1			4			
Allegheny Col.	5	5	5	3			1			
*Bloomsburg State Col.	7	2	4	4	1	0	0	0	1	
**Bryn Mawr Col.	3	4	3	3	4	1	7	0	0	1
Bucknell U.	13	6	6	8			10			
California State Col.of PA	2	3	2	1			1			
**Carnegie-Mellon U.	45	29	27	18	61	17	19	7	1	6
Clarion State Col.	5	7	3	5			6			
Dickinson Col.	10	8	9	9			6			
**Drexel U.	22	20	22	14	40	9	11	10		3
Duquesne U.	8	3	4	2			1			
East Stroudsburg State Col.	8	6	6	4			4			
Edinboro State Col.	5	3	5	3			2			
Elizabethtown Col.	1	1	0	0			0			
Franklin & Marshall Col.	15	20	16	15			13			
Gannon U.	5	0	5	0			1			
Geneva Col.	0	2	1	1			1			
Gettysburg Col.	10	6	4	17			5			

Institution	1980 - 1981 PHYSICS ENROLLMENTS: Undergraduate physics majors — Fresh-men	Sopho-mores	Jr's	Sr's	Graduate students — Total	1st yr.	1979 - 1980 PHYSICS DEGREES — Bach.	MS	TMS	PhD's
PENNSYLVANIA (cont'd)										
Grove City Col.	2	1	1	3			3			
Haverford Col.	10	10	8	9			9			
*Indiana U. of PA	30	22	6	5	15	3	6	0	3	
Juniata Col.	3	3	3	3			5			
King's Col.	4	0	2	1			1			
Kutztown State Col.	4	(3)	0	1			1			
Lafayette Col.	2	0	3	4			6			
La Salle Col.	10	2	2	2			1			
Lebanon Valley Col.	14	11	5	9			1			
**Lehigh U.	15	11	8	10	39	10	9	7	2	7
Lincoln U.	0	2	2	0			1			
Lock Haven State Col.	3	3	1	1			0			
Lycoming Col.	5	5	6	5			6			
Mansfield State Col.	6	11	9	5			3			
Millersville State Col.	32	17	21	13			13			
Moravian Col.	12	10	7	3			6			
Muhlenberg Col.	9	8	6	5			6			
**PA State U.	24	24	22	21	90	20	19	2	2	10
**PA-U.of	8	10	10	14	77	24	13	0	2	10
**Pittsburgh-U.of	(18)	(18)	18	17	84	21	6	2	5	7
St. Joseph's U.	11	9	4	7			8			
St. Vincent Col.	3	2	0	2			2			
*Scranton-U.of	1	3	1	0	21	6	3	0	2	
*Shippensburg State Col.	10	4	1	2	4	1	0	0	1	
Slippery Rock State Col.	3	3	3	2			2			
Susquehanna U.	8	4	2	3			2			
Swarthmore Col.	15	12	20	15			9			
**Temple U.	23	7	7	5	34	9	2	0	0	1
Thiel Col.	5	2	1	2			0			
Ursinus Col.	3	6	4	5			5			
Villanova U.	5	12	6	4			4			
Washington & Jefferson Col.	3	3	3	2			2			
West Chester State Col.	15	30	10	1			0			
Westminster Col.	6	5	5	1			2			
Widener U.	1	1	1	2			0			
*Wilkes Col.	8	7	2	3	3	0	3	0	0	
RHODE ISLAND										
**Brown U.	16	15	10	12	83	18	13	10	0	17
Providence Col.	1	1	0	0			5			
**RI-U.of	8	3	6	7	14	5	3	1	0	0
SOUTH CAROLINA										
Baptist Col. at Charleston	2	0	0	0			0			
Benedict Col.	15	16	7	6			2			
Bob Jones U.	(11)	(7)	(3)	(1)			(2)			
Charleston-Col.of	10	11	10	12			1			

Institution	1980 - 1981 PHYSICS ENROLLMENTS						1979 - 1980 PHYSICS DEGREES			
	Undergraduate physics majors				Graduate students					
	Fresh-men	Sopho-mores	Jr's	Sr's	Total	1st yr.	Bach.	MS	TMS	PhD's
SOUTH CAROLINA (cont'd)										
Citadel, The	19	11	4	5			9			
**Clemson U.	2	4	7	6	23	2	13	0	1	2
Converse Col.	2	0	2	0			0			
Erskine Col.	3	3	2	3			0			
Furman U.	3	3	1	1			0			
Presbyterian Col.	10	10	6	4			1			
SC State U.	(3)	(4)	(3)	(3)			(0)			
**SC-U.of	21	8	9	3	34	11	10	0	0	6
Wofford Col.	5	5	3	3			1			
SOUTH DAKOTA										
Augustana Col.	4	5	3	3			2			
*SD School of Mines & Tech.	10	9	5	2	3	1	0	0	2	
SD State U.	10	8	10	9	4	2	6	0	2	
SD-U.of	2	3	1	2			1			
TENNESSEE										
Austin Peay State U.	2	1	2	0			1			
Belmont Col.	2	1	2	0			0			
Carson-Newman Col.	3	1	1	1			3			
Christian Brothers Col.	4	4	2	1			0			
David Lipscomb Col.	2	2	1	1			2			
*East TN State U.	5	3	3	6	0	0	2	0	0	
*Fisk U.	11	6	3	1	1	1	2	0	0	
King Col.	2	2	2	2			1			
Maryville Col.	0	0	1	0			0			
*Memphis State U.	9	7	6	3	2	2	0	0	1	
Middle TN State U.	2	4	4	3			0			
South-The U.of the	4	5	5	6			2			
Southern Missionary Col.	4	2	2	1			0			
Southwestern at Memphis	9	6	7	11			4			
TN State U.	(2)	2	2	0			0			
TN Tech. U.	10	6	3	4			4			
TN-U.of-Chattanooga	4	3	20	8	1	1	0			
**TN-U.of-Knoxville	11	6	8	7	33	9	6	2	4	5
1**TN-U.of-Space Institute	-	-	-	-	36	6	-	1	2	1
**Vanderbilt U.	10	10	12	8	18	6	12	2	3	3
TEXAS										
Abilene Christian U.	38	30	7	4			2			
Angelo State U.	14	16	5	18			9			
Austin Col.	6	5	4	0			1			
**Baylor U.	15	15	10	11	14	4	4	1	0	1
Dallas Baptist Col.	1	1	0	0			1			
Dallas-U.of	10	7	3	1			4			

Institution	1980 - 1981 PHYSICS ENROLLMENTS						1979 - 1980 PHYSICS DEGREES			
	Undergraduate physics majors				Graduate students					
	Fresh-men	Sopho-mores	Jr's	Sr's	Total	1st yr.	Bach.	MS	TMS	PhD's
TEXAS (cont'd)										
*East TX State U.	10	11	7	5	12	4	6	0	5	
Hardin-Simmons U.	(3)	(3)	(2)	(2)			(2)			
Houston Baptist U.	(9)	(4)	(3)	(4)			(3)			
**Houston-U.of	28	26	22	17	41	10	3	1	2	3
Huston Tillotson Col.	(5)	(5)	(3)	(1)			(0)			
Jarvis Christian Col.	0	0	0	0			3			
Lamar U.	10	6	8	7			11			
Mc Murry Col.	4	2	1	1			0			
Midwestern State U.	25	4	4	3			4			
**North TX State U.	15	20	9	16	48	8	8	3	1	1
Pan American U.	4	6	4	4			1			
Prairie View A & M U.	2	1	0	0			0			
**Rice U.	25	25	24	40	42	9	16	5	1	1
St. Mary's U.	2	0	0	1			1			
*Sam Houston State U.	100	42	24	8	6	3	11	1	1	
**Southern Methodist U.	12	11	8	5	6	2	4	1	0	1
*Southwest TX State U.	29	5	4	10	6	4	4	1	3	
Southwestern U.	(1)	(2)	(2)	(2)			(2)			
*Stephen F. Austin State U.	20	20	10	5	7	2	5	0	0	
Tarleton State U.	(0)	(0)	(0)	(0)			(1)			
*TX A & I U.	0	5	3	2	3	3	1	0	0	
**TX A & M U.	41	32	26	24	49	13	14	6	0	5
**TX Christian U.	3	3	2	4	8	3	1	0	0	2
TX Southern U.	6	6	10	4			5			
**TX Tech U.	34	27	11	10	12	5	3	2	4	0
*TX-U.of-Arlington	23	9	15	22	22	4	10	0	8	
**TX-U.of-Austin	67	52	29	16	228	43	26	1	3	16
**TX-U.of-Dallas	0	0	20	6	71	32	4	7	3	1
*TX-U.of-El Paso	10	7	6	12	14	5	3	0	5	
*TX Woman's U.	(2)	(1)	(1)	(1)	(0)	(0)	(1)	(0)	(0)	
*Trinity U.	3	3	1	1	2	0	5	0	0	
West TX State U.	(2)	(2)	(1)	(2)			(1)			
UTAH										
**Brigham Young U.	45	35	21	27	24	(5)	20	2	0	1
**UT State U.	16	12	6	7	21	8	5	3	1	2
**UT-U.of	35	24	20	16	57	12	14	1	7	3
Weber State Col.	20	10	7	5			5			
Westminster Col.	(4)	(2)	(2)	(2)			(1)			
VERMONT										
Marlboro Col.	2	2	1	2			3			
Middlebury Col.	(9)	8	9	8			6			
Norwich U.	4	1	1	0			0			
St. Michael's Col.	4	1	2	5			0			
**VT-U.of	11	8	16	10	11	3	10	2	0	1

Institution	1980 - 1981 PHYSICS ENROLLMENTS						1979 - 1980 PHYSICS DEGREES			
	Undergraduate physics majors				Graduate students					
	Fresh-men	Sopho-mores	Jr's	Sr's	Total	1st yr.	Bach.	MS	TMS	PhD's
VIRGINIA										
Bridgewater Col.	4	3	1	3			1			
Eastern Mennonite Col.	0	1	1	1			2			
Emory & Henry Col.	1	1	2	1			2			
George Mason U.	34	17	12	10			3			
Hampden-Sydney Col.	(3)	(3)	(3)	(3)			(1)			
*Hampton Institute	2	4	4	2	1	1	4	0	0	
2*James Madison U.	14	8	12	7	2	0	8	0	0	
Longwood Col.	9	11	6	4			0			
*Lynchburg Col.	10	8	5	3	11	4	10	0	1	
Mary Washington Col.	(6)	(6)	(8)	(8)			(4)			
Norfolk State Col.	(5)	(2)	(2)	(5)			(3)			
**Old Dominion U.	8	7	4	4	27	9	4	2	6	0
Randolph-Macon Col.	4	6	4	2			3			
Randolph-Macon Woman's Col.	0	0	0				1			
Richmond-U.of	8	7	5	4			5			
Roanoke Col.	4	3	1	0			0			
Sweet Briar Col.	3	3	3	3			2			
VA Commonwealth U.	31	12	10	5			4			
VA Military Institute	17	8	10	10			8			
**VA Poly.Tech.Inst.&StateU.	(30)	(20)	16	10	44	24	5	4	2	3
*VA State U.	8	6	5	4	5	3	2	0	0	
**VA-U.of	29	46	31	25	53	13	19	0	1	11
Washington & Lee U.	18	12	10	12			7			
**William & Mary-Col.of	40	30	20	15	33	7	16	1	2	2
WASHINGTON										
Central WA U.	27	12	6	6			2			
Eastern WA U.	6	5	12	2			1			
Evergreen State Col.	(10)	(10)	(4)	(5)			(3)			
Gonzaga U.	2	1	0	1			1			
Pacific Lutheran U.	5	3	2	3			2			
Puget Sound-U.of	1	1	4	5			7			
Seattle Pacific U.	4	5	4	2			1			
Seattle U.	(6)	(0)	(1)	(3)			(1)			
Walla Walla Col.	(5)	(1)	(1)	(2)			(1)			
**WA State U.	10	8	6	3	32	12	7	4	2	3
**WA-U.of	40	50	40	60	146	47	25	14	5	13
*Western WA U.	21	10	5	16	1	1	4	1	0	
Whitman Col.	61	12	4	8			5			
Whitworth Col.	5	6	4	2			2			
WEST VIRGINIA										
Bethany Col.	(12)	(4)	(1)	(1)			(1)			
Marshall U.	5	3	4	3			1			
WV Institute of Tech.	(1)	(3)	(3)	(0)			(2)			
**WV U.	11	8	6	4	26	7	3	3	0	2
WV Wesleyan U.	15	8	11	6			5			

Institution	1980 - 1981 PHYSICS ENROLLMENTS						1979 - 1980 PHYSICS DEGREES			
	Undergraduate physics majors				Graduate students					
	Fresh-men	Sopho-mores	Jr's	Sr's	Total	1st yr.	Bach.	MS	TMS	PhD's
WEST VIRGINIA (cont'd)										
Wheeling Col.	2	0	3	1			2			
WISCONSIN										
Beloit Col.	5	5	5	2			2			
Carroll Col.	(1)	(2)	(2)	(2)			(2)			
Carthage Col.	2	0	0	0			0			
Lawrence U.	8	7	3	2			5			
*Marquette U.	6	4	4	3	13	10	2	3	0	
Northland Col.	4	2	2	2			1			
Ripon Col.	19	8	3	4			4			
WI-U.of-Eau Claire	(12)	(13)	(10)	(10)			(9)			
*WI-U.of-Green Bay	5	3	3	5	0	0	2	0	1	
WI-U.of-La Crosse	12	3	4	0			1			
**WI-U.of-Madison	(20)	(20)	17	24	163	38	13	24	3	16
**WI-U.of-Milwaukee	(8)	(8)	5	7	35	10	3	1	0	2
*WI-U.of-Oshkosh	(9)	(6)	(4)	(4)	(4)	(3)	(5)	(0)	(1)	
WI-U.of-Parkside	(9)	(5)	(4)	(4)			(5)			
WI-U.of-Platteville	2	0	1	1			1			
*WI-U.of-River Falls	18	12	10	6	1	1	7	0	1	
WI-U.of-Stevens Point	9	7	2	4			2			
WI-U.of-Superior	(10)	(3)	(3)	(4)			(4)			
WI-U.of-Whitewater	7	3	3	1			2			
WYOMING										
**WY-U.of	6	4	7	6	33	5	6	0	0	2

AIP report MANPOWER STATISTICS DIVISION

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ENROLLMENTS AND DEGREES

AIP Pub. No. R-151.18 by Susanne D. Ellis February 1981

With the start of a new decade, comes a renewed interest in the "hard" sciences which is reflected in increasing physics enrollments. Last year we commented on the rising number of foreign students who enter American universities to study science; this year's data confirm the continuation of that trend. Astronomy enrollments and degrees comprise the last portion of this report.

Table I presents the changing number of institutions for the past five years and classifies them by highest physics degree offered. In 1980 seven of the four-year physics departments expanded their curricula to include a physics master's program. These additional graduate programs account in part for the recent increase in master's-granting institutions.

TABLE I. Institutions by highest physics degree offered, 1976-81:

Academic year	Doctorate granting	Master's granting	Bachelor's granting
1976-77	173	114	515
1977-78	172	110	506
1978-79	170*	104	502
1979-80	169*	96	501
1980-81	168*	103	492

** Five of these institutions have two physics doctorate-granting departments; the second one is generally an applied physics department. They are Stanford U., U. of CA-Davis, U. of CA-San Diego, Harvard U. and Cornell U.*

As the longest uninterrupted annual AIP survey, the Survey of Enrollments and Degrees has the distinction of summarizing the data of nearly 100% of the 806 degree-granting physics and astronomy departments. The trends of physics degrees granted, presented in **Figure I**, clearly indicate the leveling in recent years, with bachelor's degrees falling just below 4500, master's degrees at 1400 and doctorates around 1000. The 1979-80 figure for new physics doctorates granted was termed "unusual" by physics department chairmen who expect 1980-81 to compensate for some of those low totals they reported. A discussion of this fluctuation is presented in connection with **Figure III**.

Fig. 1. Physics degrees awarded by academic year, 1969-80.

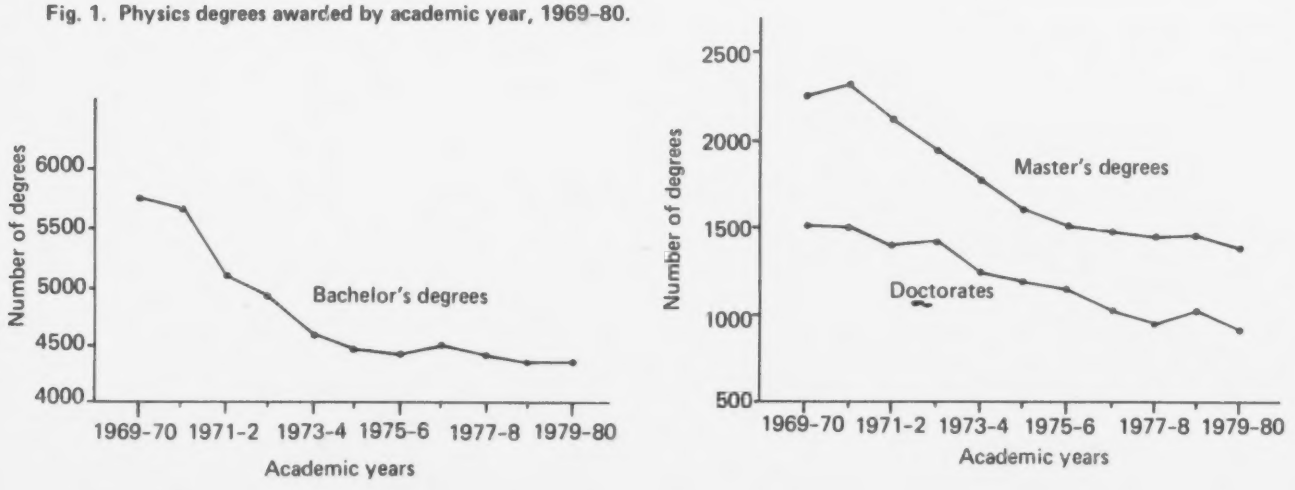

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Table II. Physics enrollments and degrees awarded by academic year 1969–81

Academic year	Number of physics degrees granted (July 1 to June 30)			Undergraduate physics-major enrollment		Graduate physics-student enrollment	
	Bachelor's	Master's	Doctorate	Juniors	Seniors	Total	1st year*
1969–70	5782	2268	1545	7480	6700	14 372	3918
1970–71	5755	2300	1530	6884	6663	14 327	3494
1971–72	5282	2143	1438	6593	6162	13 276	3336
1972–73	4923	1961	1445	6012	5806	11 804	2904
1973–74	4652	1772	1236	5858	5108†	11 119	2680
1974–75	4571	1650	1167	5660	4909†	10 410	2668
1975–76	4487	1570	1111	5888	4922†	10 372	2646
1976–77	4517	1469	1051	5711	4930†	9 991	2624
1977–78	4457	1422	971	5820	4975††	9 835	2499
1978–79	4416	1428	1033	5835	4964	9 813	2458
1979–80	4440	1370	912	5696	4942	9 647	2439
1980–81				5905	5091	9 934	2564

* *Includes part-time students who might be at the 1st-year level for more than one year.*

† *This total has been adjusted by 500 for students who are seniors for more than one year.*

†† *This total has been adjusted by 300 students who are seniors for more than one year.*

Table III. Undergraduate and graduate enrollments and degrees by institution type, 1969-81

Academic year	Number of physics degrees granted (July 1 to June 30)			Undergraduate physics-major enrollment		Graduate physics-student enrollment	
	Bachelor's	Master's	Doctorate	Juniors	Seniors	Total	1st year
			Doctorate granting institutions				
1969–70	3036	1804	1545	3869	3369	12 779	3202
1970–71	2868	1817	1530	3510	3490	12 400	2658
1971–72	2502	1640	1438	3082	2987	11 434	2449
1972–73	2265	1484	1445	2787	2717	10 227	2177
1973–74	2155	1387	1236	2844	2484	9 759	2169
1974–75	2191	1318	1167	2780	2420	9 295	2205
1975–76	2182	1249	1111	2983	2505	9 241	2163
1976–77	2184	1186	1051	2862	2502	8 867	2182
1977–78	2218	1164	971	2851	2590	8 852	2138
1978–79	2158	1183	1033	2937	2579	8 864	2107
1979–80	2142	1151	912	2696	2491	8 744	2072
1980–81				2765	2568	9 062	2223
			Master's granting institutions				
1969–70	1022	464		1281	1274	1593	716
1970–71	1044	483		1220	1175	1927	836
1971–72	982	503		1238	1210	1842	887
1972–73	820	477		1145	1086	1577	727
1973–74	810	385		939	893	1360	511
1974–75	699	332		881	741	1115	463
1975–76	604	321		916	811	1131	483
1976–77	658	283		840	761	1078	442
1977–78	590	258		832	752	983	361
1978–79	541	245		795	694	949	351
1979–80	585	219		705	650	903	367
1980–81				868	655	872	341
			Bachelor's granting institutions				
1969–70	1724			2330	2057		
1970–71	1843			2154	1998		
1971–72	1798			2273	1965		
1972–73	1838			2080	2003		
1973–74	1687			2075	1731		
1974–75	1681			1999	1748		
1975–76	1701			1989	1606		
1976–77	1675			2009	1667		
1977–78	1649			2137	1633		
1978–79	1717			2103	1691		
1979–80	1713			2295	1801		
1980–81				2272	1868		

Table IV. Introductory physics enrollments in physics-degree-granting institutions by geographic region 1976–81

Geographic region †	1976–77	1977–78	1978–79	1979–80	1980–81
New England	21 139	19 672	19 356	18 797	21 866
Mid Atlantic	44 919	44 839	42 652	41 555	43 216
E.N. Central	50 123	51 598	50 434	50 843	54 663
W.N. Central	22 018	22 253	21 115	21 805	23 406
S. Atlantic	36 272	38 519	33 097	33 966	33 800
E.S. Central	14 900	15 003	14 835	14 829	15 068
W.S. Central	32 956	29 968	26 768	28 563	30 030
Mountain	18 786	20 490	19 342	20 753	21 035
Pacific	34 628	32 635	32 084	31 318	36 150
Total	277 741	274 977	259 683	262 429	279 134

†New England—*Conn., Me., Mass., N. Hamp., R.I., Vt.;* Middle Atlantic—*N.J., N.Y., Pa.;* East North Central—*Ill, Ind., Mich., Ohio, Wisc.,* West North Central—*Iowa, Kansas, Minn., Mo., Nebr., N. Dak., S. Dak.;* South Atlantic—*Del., D.C., Fla., Ga., Md., N.C., S.C., Va., W. Va.;* East South Central—*Ala., Ky., Miss., Tenn.;* West South Central—*Ark., La., Okla., Tex.;* Mountain—*Ariz., Colo., Idaho., Mont., Nev., N. Mex., Utah., Wyo.;* Pacific—*Alas., Cal., Hawaii, Oreg., Wash.*

The numerical data for **Figure I** are presented as part of **Table II** which also includes undergraduate and graduate physics enrollments. Since the junior year is the earliest level at which students are obliged to declare their majors, the 3½% increase, though small, may signal an important change in trend.

By expanding **Table II** to distinguish the three types of physics departments one generates **Table III.** This table attributes the enrollment increases at the graduate level to the doctorate-granting institutions. The 7% increase in first-year graduate students at those institutions may represent a turning point rather than a fluctuation. **Tables VII** and **VIII** offer further details on graduate enrollments. Having presented a comprehensive summary of physics enrollments in the first three tables of this report, **Tables IV** through **XI** focus on a detailed analysis of the physics pipeline.

Introductory physics enrollments

When compared with other disciplines such as chemistry, engineering or the social sciences, physics attracts a relatively small number of majors. Introductory physics, on the other hand, is frequently a required course for engineering or health-related majors and thus enrolls over a quarter of a million freshman-sophomore level students. The 6% increase between September 1979 and September 1980 reflects the renewed interest in the hard sciences referred to at the beginning of this report.

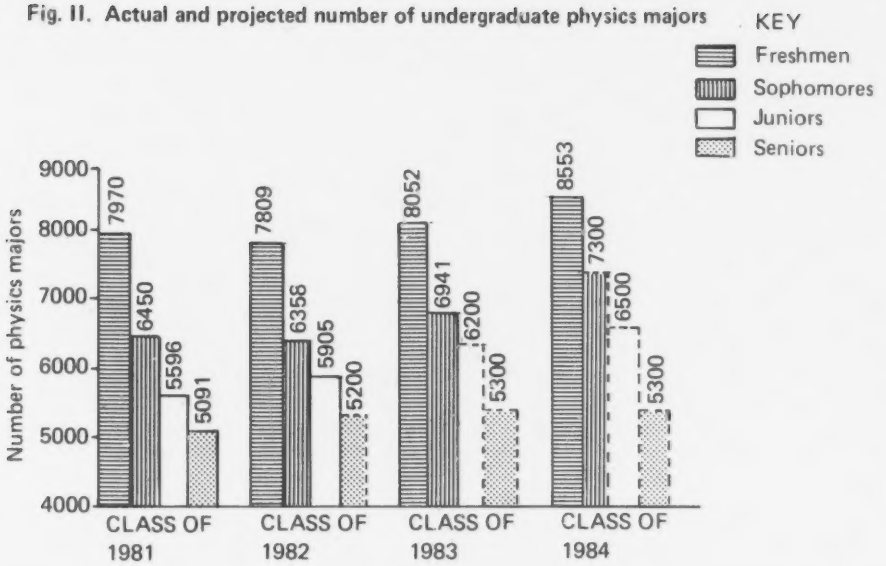
Table IV presents a five-year enrollment trend for each of nine geographic regions and shows that all regions, with the exception of the South Atlantic region, reported net increases in introductory enrollment. Analyzing these introductory enrollments with respect to the design of the course, we find that an increasing number of prospective engineering majors and a decreasing number of prospective biology or health-related majors enroll in these courses. **Table V** offers details on the 1980–81 enrollments where the engineering total of 102,000 represents a two-year increase of 15,000 students while the 75,000 health-related majors represent a three-year decline of 15,000 students. The proportional distribution of introductory enrollments among the three types of institution remained unchanged.

Table V. Introductory physics enrollments, 1980–81.

Enrollment in introductory physics courses designed for:		Institution type* I		II		III		Total	
		N	%	N	%	N	%	N	%
engineering majors		18462	27.4	13988	33.1	69493	41.0	101 943	36.5
physical science majors		13678	20.3	7269	17.2	28136	16.6	49 083	17.6
biology, health-related majors		19675	29.2	12213	28.9	43052	25.4	74 940	26.9
others		15564	23.1	8790	20.8	28814	17.0	53 168	19.0
Total introductory enrollment	N	67379		42260		169495		279134	
	%	24.2		15.1		60.7			100.0

**"Institution type" indicates the highest degree offered; type I = bachelor's degree, type II = master's degree, type III = doctorate.*

Fig. II. Actual and projected number of undergraduate physics majors



Note: Each cluster of four bars shown in **Figure II** *depict the freshmen, sophomores, juniors and seniors of four successive graduating classes. The most recent estimate of freshman physics majors is that for 1980-81 and added up to 8553. Based on the attrition of earlier classes, 5300 of them are expected to become seniors in 1983-84 and are presented above as the "class of 1984".*

Undergraduate physics majors

With an increasing number of chairmen providing estimates of their prospective physics majors, it is possible to compute the attrition rates that occur in four years of undergraduate study. Thus the first set of bars in **Figure II** follows the 1977-78 freshman physics majors through four years of undergraduate study to become the graduating class of 1981 physics bachelors. The chairmen's most recent estimates of freshmen show a significant increase over previous years and so do the number of juniors reported by them. Using these data as a new base we felt justified to revise the projections of physics majors upward by 200–300 seniors each year.

A more detailed analysis of undergraduate physics majors in different parts of the U.S. is presented in **Table VI**. The last column of this table "Fifth-year undergraduates" primarily consists of students who need an additional summer session or term to complete their degree requirements; in some cases transfers from junior colleges cause such a delay. Thus there are approximately 500 seniors each year who had been included among the seniors reported during the previous year.

Table VI. Undergraduate physics majors by geographic region and type of institution, 1980-81.

Geographic region*	Estimated** no. of freshmen	Estimated** no. of sophomores	Number of juniors	Number of seniors	Fifth-year undergraduates
New England	610	567	555	524	54
Mid. Atlantic	1 553	1 240	965	843	69
E. N. Central	1 309	1 103	893	725	87
W. N. Central	695	603	473	439	11
S. Atlantic	1 146	968	855	670	42
E. S. Central	341	270	284	210	14
W. S. Central	953	710	554	471	43
Mountain	620	459	355	372	45
Pacific	1 326	1 021	971	837	197
Total	8 553	6 941	5 905	5 091	562
Doctorate-granting inst.	3 735	3 045	2 765	2 568	283
Master's-granting inst.	1 328	995	868	655	139
Bachelor's-	3 490	2 901	2 272	1 868	140

* *See Table IV for explanation of geographic region.*
** *Estimates of potential physics majors made by the physics department chairmen.*

Graduate enrollment

When examining graduate physics students three characteristics are noteworthy: (1) almost 90% of the physics students compared with 75% of those in related disciplines are assured of financial support*, (2) a rising number of first-year students hold foreign citizenship, and (3) a large proportion of the graduate students study on a full-time basis. The second characteristics is illustrated by the trend shown in **Table VII**, while **Table VIII** offers details on the third characteristic of study status.

For the second time the question of unfilled assistantships for first-year graduate students was asked on this annual survey, and in 1980 as in 1979 approximately 200 assistantships remained unfilled for the fall term. **Table IX** addresses itself to those abundant sources of support for entering graduate physics students. Their distribution among the different geographic regions though, is by no means uniform. The percentage of additional students for whom there would have been support available, ranged from 3% in the East North Central region to over 20% in both South Central regions.

Based on findings from the Survey of Physics Bachelor's Degree Recipients. AIP Pub. No. R-211.12

Table VII. Trend in entering foreign graduate physics students, 1970–81.

Academic year	Foreign Students N	%	Total first-year students
1970–71	615	17.6	3494
1971–72	606	18.2	3336
1972–73	612	21.0	2904
1973–74	614	22.9	2680
1974–75	594	22.3	2668
1975–76	551	20.8	2646
1976–77	637	24.2	2624
1977–78	648	26.0	2499
1978–79	618	25.2	2458
1979–80	739	30.3	2439
1980–81	844	32.9	2564

Table VIII. Full-time and part-time graduate physics enrollment by type of institution, 1973–81.

	Total number of graduate students						
Academic year	Institution type* II			III			
	Full-time	Part-time	Sub-total	Full-time	Part-time	Sub-total	Total
1973–74	734	626	1360	8810	949	9759	11119
1974–75	623	492	1115	8326	969	9295	10410
1975–76	628	503	1131	8439	802	9241	10372
1976–77	576	507	1083	8119	789	8908	9991
1977–78	546	437	983	8174	678	8852	9835
1978–79	468	481	949	8185	679	8864	9813
1979–80	550	353	903	8059	685	8744	9647
1980–81	484	388	872	8302	760	9062	9934

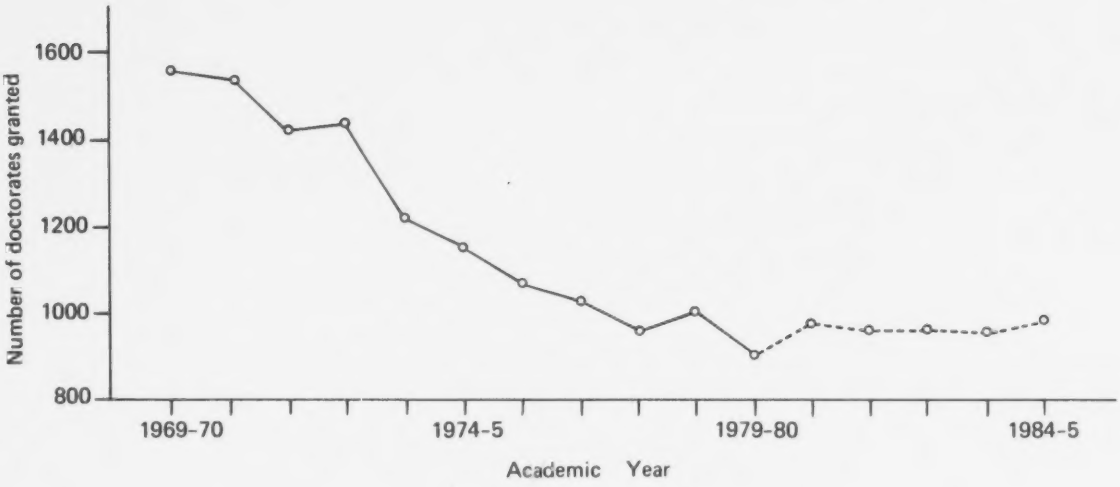
** Institution type indicates the highest physics degree offered: type II = master's degree, type III = doctorate.*

Table IX. Unfilled assistantships for first-year graduate physics students in PhD departments, September 1980.

Geographic region*	Departments with 0 unfilled assistantships	1–2	3–5	>6	Approximate no. of unfilled assistantships	No. of 1st yr. grad. students
New England	11	8	0	0	12	295
Mid. Atlantic	17	5	7	0	35	396
E. N. Central	9	5	0	1	17	391
W. N. Central	8	1	1	1	14	110
S. Atlantic	12	3	4	1	30	236
E. S. Central	2	4	3	0	18	68
W. S. Central	6	4	2	4	46	171
Mountain	7	2	3	1	22	137
Pacific	13	1	1	2	22	419
Total no. of	85	33	21	10	216	2223

**See Table IV for explanation of geographic region.*
Note: 24 departments did not answer the question of unfilled assistantships.

Figure III. Actual and projected number of physics doctorates granted, 1969-1984



The median number of years of graduate study to complete a physics doctorate is five, with a range from three to more than ten years. In connection with **Table II** reference was made to the unexpectedly low number of doctorates conferred in 1979-80. The numbers of first-year graduate students at PhD-granting universities have been used to project the number of doctorates granted five years later because we found these numbers correlate well. However the total for 1979-80 of 912 doctorates is surprisingly low constituting only 42% of the entering students of September 1975; a more common range has been 44% to 47%. But physics department chairmen point out that doctorates are conferred throughout the year and at times the June 30 cut-off date transfers a large number of summer degree recipients into the next academic year; this was evidently the case in the summer of 1980. Thus **Figure III** continues to project the annual number of physics doctorates granted at approximately 1000.

Degrees granted

Table X offers details of where physics degrees are granted and by what types of institutions. Unlike the trend tables at the beginning of this report, **Table X** distinguishes between degree recipients who enter the job market with a master's degree and those who are granted master's degrees enroute to higher degrees. While one would expect the latter group to be enrolled at PhD-granting institutions, there exists a small number of masters (47 in the class of 1980) who transfer from master's institutions to larger universities and continue their studies toward a PhD. It may be of interest to note that terminal master's degrees declined more rapidly than master's degrees awarded enroute to higher degrees in the 1970's, (a decline of 50% for the former compared with 29% for the latter, since 1971).

Table X. Physics degrees by type of institution and geographic region, 1979-80.

	Bachelor's degrees			Master's degrees		Terminal master's degrees		Doctorates
Geographic region*	Institution type** I	II	III	Institution type** II	III	Institution type** II	III	Institution type** III
New England	144	16	377	0	122	5	68	145
Mid. Atlantic	349	50	414	2	160	13	68	187
E. N. Central	286	173	267	24	118	46	81	122
W. N. Central	210	69	104	2	25	27	15	50
S. Atlantic	256	52	257	3	55	19	40	99
E. S. Central	64	38	50	6	12	4	17	17
W. S. Central	142	68	120	2	33	23	25	45
Mountain	72	4	186	0	37	6	36	46
Pacific	190	115	367	8	155	29	84	201
Subtotal	1 713	585	2 142	47	717	172	434	912
				764		606		
Total	4 440			1370				912

* *See Table IV for explanation of geographic region.*

** *Institution type indicates the highest physics degree offered; type I = bachelor's degree, type II = master's degree, type III = doctorate.*

Table XI. Number of physics degrees granted by sex and minority group status, 1979-80.

Type of degree	Sex	Total no. of degrees	Minority groups								Total minorities
			Black	Am. Ind.	Puerto Rican	Mex. Am.	Other Latin	Oriental	Asian Indian	Arab	
Bachelor's	Men	4010	67	5	12	12	9	74	11	19	209
	Women	430	11	0	2	1	1	8	2	2	27
	Total	4440	78	5	14	13	10	82	13	21	236
Master's enroute	Men	697	12	0	0	1	2	38	3	8	64
	Women	67	5	0	0	0	0	1	1	1	8
	Total	764	17	0	0	1	2	39	4	9	72
Terminal master's	Men	557	11	1	1	1	3	18	1	6	42
	Women	49	1	0	0	0	2	3	1	2	9
	Total	606	12	1	1	1	5	21	2	8	51
Doctorate	Men	853	8	1	2	2	9	45	31	8	106
	Women	59	0	0	0	0	1	3	1	0	5
	Total	912	8	1	2	2	10	48	32	8	111

Other sources: "1979-80 Survey of Physics and Astronomy Bachelor's Degree Recipients", AIP Pub. No. R-211.12
"1979-80 Graduate Student Survey", AIP Pub. No. R-207.13

A frequent request for information deals with the proportion of women and minorities among physics degree recipients. While department chairmen contribute some of these data, a large proportion of **Table XI** is based on reports from the individual graduates. The table identifies eight minority groups, the members of which received physics degrees in 1979-80.

The minority groups are listed in a way that presents those with a high proportion of U.S. citizens in columns toward the left side of **Table XI** and those with a high proportion of foreign citizens on the right. The Oriental group is more mixed and includes approximately 30% to 40% U.S. citizens.

ASTRONOMY

When one examines choices students make to fulfill science requirements, introductory astronomy stands out as a popular choice. Thus we find more than one-hundred-thousand students enrolled in those courses and the numbers are still increasing. On the other hand, the number of degree-granting astronomy departments is decreasing; a net change from 70 departments to 67 departments occurred between 1979-1980 and 1980-81. A closer examination of these changes reveals an increase in PhD-granting astronomy departments by three while four bachelor's – and two master's-granting departments suspended their astronomy degree programs.

Seven years ago the Survey of Enrollments and Degrees began to collect and analyze astronomy data from separate astronomy departments as well as those combined with physics departments. Correcting for inconsistencies of reporting during the early stages of a survey, we are able to present astronomy enrollment and degree data in **Table XII** starting with the academic year 1975-76. A complete listing of each department with its data is available upon request.

Table XII. Trend in astronomy enrollments and degrees, 1975-1981.

Academic year	No. of astronomy degrees granted (July 1 – June 30)				Undergraduate astronomy major enrollment		Graduate astronomy enrollment	
	Bachelor's	Master's enroute	Terminal master's	Doctor's	Juniors	Seniors	Total	1st year
1975-76	172	56	35	93	305	280	780	165
1976-77	184	58	35	96	290	270	790	170
1977-78	177	64	31	93	295	270	803	171
1978-79	165	73	42	90	270	249	710	145
1979-80	165	54	27	106	262	242	698	154
1980-81					275	238	686	164

Table XIII. Astronomy* enrollments 1980–81 and degrees 1979–80 by type of institution**

		Type I	Type II	Type III	Total
Astronomy departments	Combined	11	4	14	29
	Separate	6	2	30	38
	Total	17	6	44	67
Astronomy degrees	Bachelor's	35	12	118	165
	Master's enroute	-	3	51	54
	Terminal master's	-	6	21	27
	Doctor's	-	-	106	106
Astronomy enrollments	Introd. courses for science majors	559	123	2 431	3 113
	Introd. courses for nonscie. majors	3 015	1 351	36 158	40 524
	Introd. astronomy courses offered in physics departments	-	-	-	61 939
	Total introductory enrollments				105 576
	Junior astronomy majors	55	27	193	275
	Senior astronomy majors	48	32	158	238
	First-year graduate students	-	4	160	164
	Total graduate enrollment	-	25	661	686

** This survey includes only degree-granting astronomy departments.*

***"Institution type" indicates the highest astronomy degree offered; type I = bachelor's degree, type II = master's degree, type III = doctorate.*

Table XIII offers details on the most recent enrollment and degree totals by comparing the contributions made by the doctorate-granting astronomy departments with those of the other two groups.